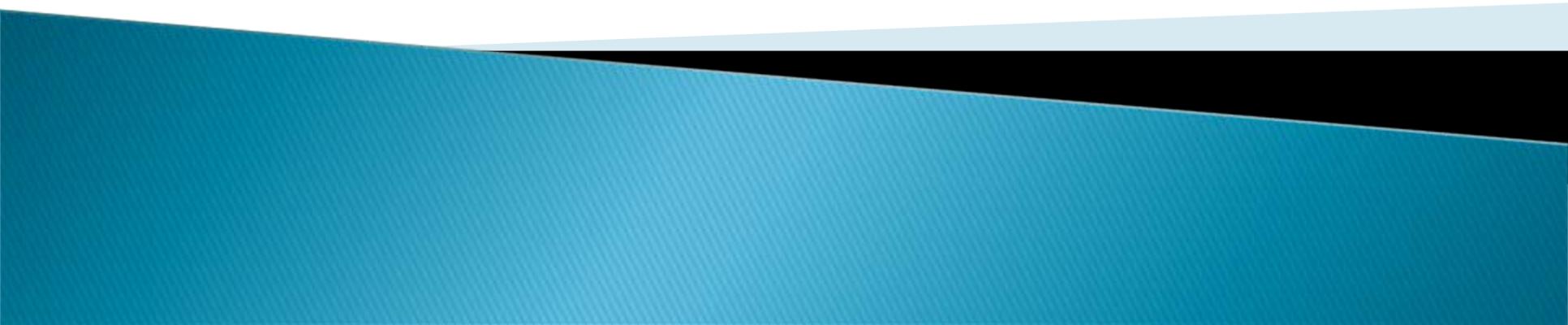


Electronic Transmission of Laboratory Information and Oversight of Laboratory Information Systems

February 2010



Laboratory Information Systems

- ▶ A highly configurable application which receives, processes and stores information generated by the medical laboratory process.
- ▶ Laboratory System is an integrated informatics solution which involves disparate applications.
- ▶ The Laboratory produces approximately 70% of diagnostic decision making data

21st Century Medicine

- ▶ “The most remarkable feature of this 21st century medicine is that we hold it together with 19th century paperwork.”

❖ Tommy G. Thompson

Former Secretary

U.S. Department of Health and Human Services

The Steps of Laboratory Transactions



*Lab
service
supplier*

*Lab
system*

*Lab
requisition
or result*

*Physician
system*

*Lab
service
requester*



Laboratory



Physician
office

Many transactions today continue to be paper

Lab service supplier

Lab system

Lab requisition or result

Physician system

Lab service requester



Laboratory



LIS or HIS system



Patient-carried



Fax



Letter mail



Lab report



LIS or HIS system

←- Custom electronic order - - - -

←- - - Paper Order - - -

- - - - Paper Result - - - - →

- - - - Custom electronic result - - - - →



Terminal or portal



EHR



Lab requisition



Letter mail



Phone



Fax



Auto-print



Terminal or portal



EHR



Physician office

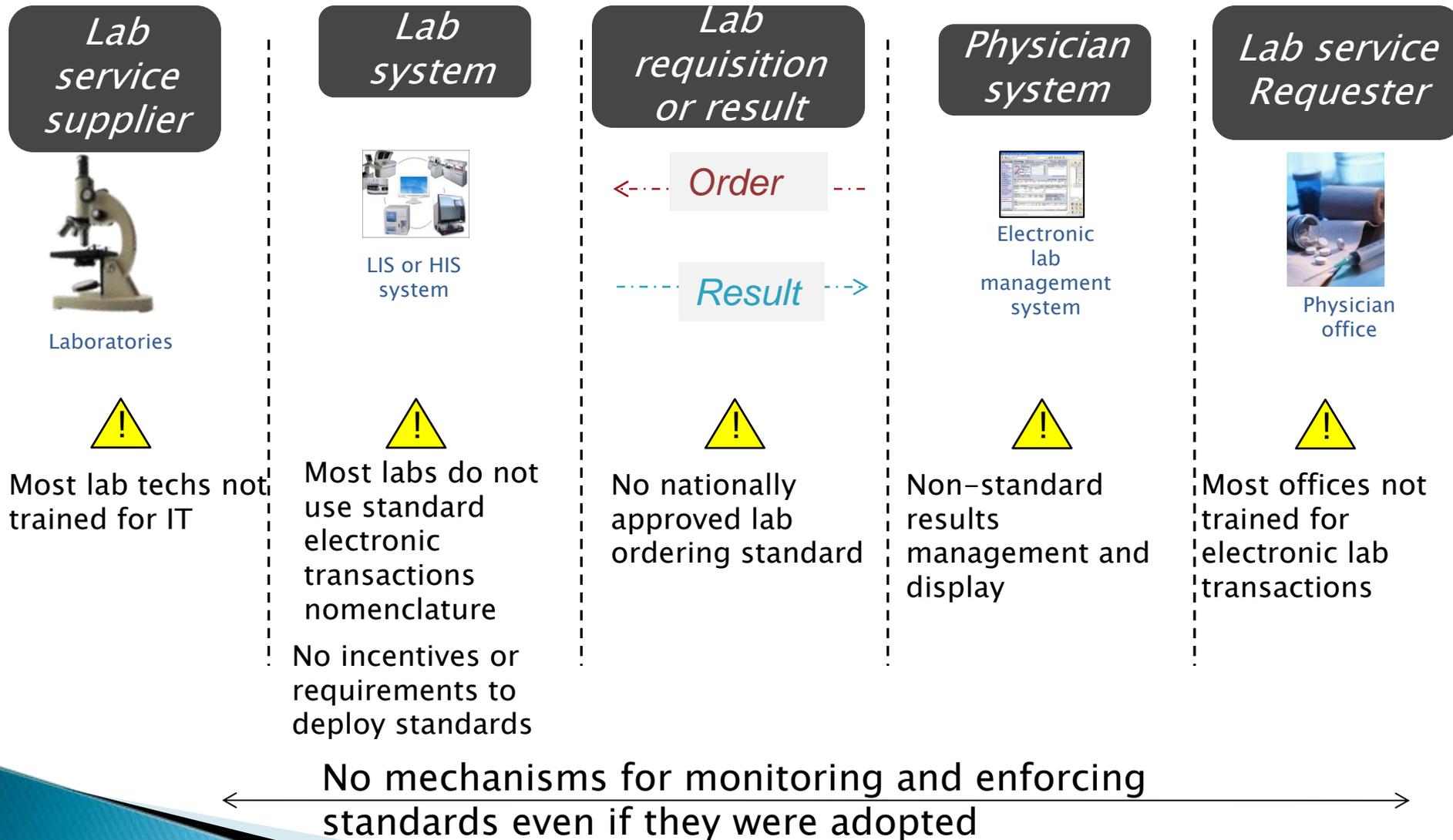
Identified Issues

Business	Technology
Greater than 75% of lab tests conducted by hospitals	There are variations in HL7 standards used between vendors
Most lab results are delivered by paper (fax or mail)	LOINC and the latest version of HL7 (2.5) are not widely used
	No interoperability between LIS products

HL7 – (Health Level 7) ANSI–accredited standards for electronically defining clinical and administrative data in the healthcare industry

LOINC – Logical Observation Identifiers, Names and Codes

Potential Barriers



Potential Solutions

Lab service supplier



Laboratories



Need to implement training for Medical Technologist and IT and increase pay so they stay in the lab.

Lab system



LIS or HIS system



Standardize Laboratory Interfaces as part of EHR deployment.

Lab requisition or result

← *Order* →

→ *Result* →



Implement a universal standard to translate test codes. E.g. LOINC like standards.

Physician system



Electronic lab management system



Modify CLIA regulations so laboratories are only responsible for ensuring that data transmitted to the EHR is accurate and contains all required fields

Lab service Requester



Physician office



Clarify the CLIA regulations so performing laboratories can verify whether the receiving EHR is federally certified.

Conclusion

- ▶ Align CLIA with new/current practices of Electronic Health Records
- ▶ Standardize laboratory interfaces
- ▶ Implement universal standards to translate test codes.